We claim:

 A method for catalytically reducing nitrogen oxide compounds, comprising exposing a gas comprising nitrogen oxides, consisting of NO and NO₂, in the presence of NH₃ to a catalyst comprising an active component selected from CuO, Mn, and oxides of Mn on a hydrous metal oxide support.

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- 2. The method of claim 1 wherein the catalyst further comprises a promoter component selected from WO₃ and MoO₃.
- 3. The method of claim 2 wherein the promoter concentration is less than approximately 5% by weight of the catalyst.
- 4. The method of claim 1 wherein the catalyst further includes silica.
- 5. The method of claim 4 wherein the silica concentration comprises an amount effective to thermally stabilize the catalyst for temperatures up to 1000°C.
- 6. The method of claim 1 wherein the nitrogen oxides have a concentration less than approximately 1000 parts per million.
- 7. The method of claim 1 where in the gas further comprises compounds selected from sulfur oxides, water vapor, oxygen, carbon dioxide, carbon monoxide and hydrogen.

8. The method of claim 1 wherein the presence of NH₃ occurs from the thermal decomposition of urea.

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- 9. The method of claim 1 wherein the method for catalytically reducing nitrogen oxide compounds occurs at a temperature greater than approximately 100°C.
- 10. The method of claim 1 wherein the method for catalytically reducing nitrogen oxide compounds occurs at a temperature less than approximately 750°C.
- 11. The method of claim 1 wherein the activated metal hydrous metal oxide support is selected from a hydrous titanium oxide and a hydrous zirconium oxide.
- 12. The method of claim 1 wherein the catalytic reduction of the nitrogen oxides has a conversion efficiency to nitrogen of greater than 90 percent.
- 13. The method of claim 1 wherein the NH₃ concentration is approximately equal to the nitrogen oxides concentration.
- 14. The method of claim 1 wherein the oxides of Mn are selected from MnO, MnO₂, and MnO_{1.5}.
- 15. The method of claim 1 wherein the catalyst is applied to a ceramic substrate.

- 16. The method of claim 15 wherein the ceramic substrate is selected from a bead, a pellet, or a monolith.
- 17. The method of claim 16 wherein the monolith is a cordierite honeycomb monolith.